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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,007	06/25/2001	Mitchell V. Bruce	1676A1	9402

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EXAMINER
KOCH, GEORGE R

ART UNIT	PAPER NUMBER
1734	

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10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/891,007	BRUCE ET AL.
	Examiner	Art Unit
	George R. Koch III	1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-17,27-32 and 41-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-17,27-32 and 41-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5-7, 27, 41-44, 46, and 48-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Switall (US Patent 4,637,341).

Switall discloses an applicator capable of applying at least a partial coating of a solution to a filament comprising an applicator surface (either of item 12 or 14), a first container (i.e., first reservoir, item 24 or 26) operable to supply the solution (item 10) to the applicator surface, the volume of the solution of the container or reservoir corresponding to a solution level in the container, a second container (i.e., second reservoir, item 22) operable to contain a supply of solution in fluid communication with the solution in the first container (i.e., reservoir) such that the solution in the second container (i.e., reservoir) has a solution level indicative of the solution level in the first container (i.e., reservoir), and a detector (items 58 and 60) for determining the solution

level within the second container (i.e., reservoir), the detector operable to control an adjustment of the volume of the solution in the first container (i.e., reservoir) such that the solution level in the first container (i.e., reservoir) is maintained within a predetermined range of levels.

As to claim 2, Switall is capable of coating glass filaments with a glass fiber sizing composition.

As to claim 3, Switall's sensors are mechanical detectors.

As to claim 5, Switall discloses flow controller elements (items 42, 46, 48, 52, 50a, 54, and 50b as well as items 32, 38, 36, 40, 33, 33a, 33b, 37, 37a, and 37b) which is positioned between a source of the solution (items 16 and 18) to permit flow of the solution from the source to the first container (i.e., reservoir), and wherein the detector is operable to generate a signal to the flow controller (via control console 62) to control the flow of the solution to the first container (i.e., reservoir) (see column 3, line 59 to column 4, line 37).

As to claim 6, the first container (i.e., reservoir) contains an overflow level (which can be defined as the top of either container (i.e., reservoir) 24 or 26), and a range of levels below the overflow level (which can be defined as the top of pipe entrances 56a and 56b, plus the levels of sensors 60 and 58). Alternatively, the top of pipe entrances 56a and 56b can be defined as the overflow levels, and the sensor levels 60 and 58 can be the range of levels below the overflow level (note that pipe entrances 56a and 56b lead to pipe 56, which empties into container (i.e., reservoir) 22 above the sensors 60 and 58).

As to claim 7, the overflow level, when interpreted as the absolute height of the container (i.e., reservoir), is operable such that any solution exceeding the overflow level is prevented from returning to the first container (i.e., reservoir) by spilling out.

As to claim 27, Switall discloses an apparatus capable of supplying and applying at least a partial coating of a solution to a filament, comprising a main container (i.e., reservoir) (either items 16 or 18) which is operable to supply a solution, a local container (i.e., reservoir) (items 24 or 26) in fluid communication with the main container (i.e., reservoir) (via the auxiliary container (i.e., reservoir) and flow controllers described below) for receiving the solution from the main container (i.e., reservoir), a volume of the solution in the local container (i.e., reservoir) corresponding to a solution level in the local container (i.e., reservoir), an applicator surface (either of items 12 or 14) operable to receive the solution from the local container (i.e., reservoir) and capable of applying an at least partial coating of the solution on to a filament, an auxillary container (i.e., reservoir) (item 22) operable to contain a supply of solution in fluid communication with the solution in the first container (i.e., reservoir) such that the solution in the auxiliary container (i.e., reservoir) has a solution level indicative of the solution level in the first container (i.e., reservoir), flow controller elements (items 42, 46, 48, 52, 50a, 54, and 50b as well as items 32, 38, 36, 40, 33, 33a, 33b, 37, 37a, and 37b) which is positioned between the main containers (i.e., reservoirs) (items 16 and 18) and the local containers (i.e., reservoirs) (items 24 and 26) to control the flow of the solution from the main containers to the local containers, and wherein the detector is operable to generate a signal to the flow controller (via control console 62) to control the flow of the solution to

the first container (see column 3, line 59 to column 4, line 37), and a detector (items 58 and 60) for monitoring the solution level within the auxiliary container, wherein the detector is operable to generate a signal to the flow controller (via control console 62) in response to the monitored solution level of the auxiliary such that the solution level in the local container (i.e., reservoir) is maintained within a predetermined range of levels (as defined by sensors 58 and 60).

As to claims 41 and 42, Switall discloses a roller as an applicator surface. The roller is partially submerged.

Claim 43 is rejected on similar grounds as claims 1 and 27 above.

Claim 44 is rejected on similar grounds as claim 3 above.

Claim 46 is rejected on similar grounds as claim 5 above.

As to claim 48, Switall as applied in claim 1 and 27 above discloses separate containers.

As to claim 49, Switall as applied in claim 1 and 27 above discloses the second volume is in a second container (i.e., reservoir).

As to claim 50, Switall discloses a roller as an applicator surface. The roller is partially submerged.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-3, 5-7, 27, 41-44, 46, and 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul (US 4,192, 252) in view of Switall (US Patent 4,637,341).

Paul discloses an applicator capable of applying at least a partial coating of a solution to a filament comprising an applicator surface (item 14), a first container (i.e., reservoir) (item 24) operable to supply the solution (item 6) to the applicator surface, the volume of the solution of the container (i.e., reservoir) corresponding to a solution level in the container (i.e., reservoir).

Paul does not disclose a second container (i.e., reservoir) or detector as claimed.

Switall, which uses an applicator capable of applying at least a partial coating of a solution to a filament comprising an applicator surface (either of item 12 or 14), and a first container (i.e., reservoir) (item 24 or 26) operable to supply the solution (item 10) to the applicator surface, the volume of the solution of the container (i.e., reservoir) corresponding to a solution level in the container (i.e., reservoir), discloses the further

improvement of a second container (i.e., reservoir) (item 22) operable to contain a supply of solution in fluid communication with the solution in the first container (i.e., reservoir) such that the solution in the second container (i.e., reservoir) has a solution level indicative of the solution level in the first container (i.e., reservoir), and a detector (items 58 and 60) for determining the solution level within the second container (i.e., reservoir), the detector operable to control an adjustment of the volume of the solution in the first container (i.e., reservoir) such that the solution level in the first container (i.e., reservoir) is maintained within a predetermined range of levels. In column 1 and column 2, Switall discloses numerous benefits for utilizing the extra containers (i.e., reservoirs) and detectors along with the other improvements disclosed. Switall also discloses supply containers (i.e., reservoirs) (item 16 and 18) and flow controllers (items 42, 46, and 48, plus items 52, 54 and 50a and 50b, plus items 32, 38, 36, 40 and 33, 33a, 33b and 37, 37a, and 37b - see rejection of claim 27 above). Switall discloses (column 1, line 35-39) that the containers (i.e., reservoirs), detectors plus the flow control elements and supply container (i.e., reservoir)s as a whole improve control over the quantity of, the components of, and the application of the solution. Furthermore, one in the art would immediately appreciate that the sensors improve the control over the supply of solution the first container (i.e., reservoir) (item 24/26 of Switall, item 24 of Paul) since the level in the second container (i.e., reservoir) is indicative of the level in the first containers (i.e., reservoirs). It is also very apparent that the addition of the detector and second container (i.e., reservoir) (as well as the further improvements disclosed in Switall of the supply means 16 and 18) reduce the downtime of the

apparatus by allowing for continual operation while maintaining the solution supply. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the second container (i.e., reservoir) and detector structures as in Switall in the overall apparatus of Paul in order to improve control over coating apparatus.

As to claim 2, Paul further discloses that the filament is a glass filament, and the solution is a glass sizing solution (column 1, lines 7-13).

As to claim 3, Switall as applied in claim 1 above discloses that the sensors are mechanical detectors.

As to claim 5, Switall as applied in claim 1 above discloses that the flow controller elements (items 42, 46, 48, 52, 50a, 54, and 50b as well as items 32, 38, 36, 40, 33, 33a, 33b, 37, 37a, and 37b) which is positioned between a source of the solution (items 16 and 18) to permit flow of the solution from the source to the first container (i.e., reservoir), and wherein the detector is operable to generate a signal to the flow controller (via control console 62) to control the flow of the solution to the first container (i.e., reservoir) (see column 3, line 59 to column 4, line 37).

As to claim 6, Switall as applied in claim 1 above discloses that the first container (i.e., reservoir) container (i.e., reservoir) contains an overflow level (which can be defined as the top of either container (i.e., reservoir) 24 or 26), and a range of levels below the overflow level (which can be defined as the top of pipe entrances 56a and 56b, plus the levels of sensors 60 and 58). Alternatively, the top of pipe entrances 56a and 56b can be defined as the overflow levels, and the sensor levels 60 and 58 can be

the range of levels below the overflow level (note that pipe entrances 56a and 56b lead to pipe 56, which empties into container (i.e., reservoir) 22 above the sensors 60 and 58).

As to claim 7, Switall as applied in claim 1 above discloses that the overflow level, when interpreted as the absolute height of the container (i.e., reservoir), is operable such that any solution exceeding the overflow level is prevented from returning to the first container (i.e., reservoir) by spilling out.

As to claim 27, Paul discloses an apparatus capable of supplying and applying at least a partial coating of a solution to a filament, comprising a local container (i.e., reservoir) a volume of the solution in the local container (i.e., reservoir) corresponding to a solution level in the local container (i.e., reservoir), and an applicator surface operable to receive the solution from the local container (i.e., reservoir) and capable of applying an at least partial coating of the solution on to a filament.

As to claim 27, Switall discloses a main container (i.e., reservoir) (either items 16 or 18) which is operable to supply a solution, a local container (i.e., reservoir) (items 24 or 26) in fluid communication with the main container (i.e., reservoir) (via the auxiliary container (i.e., reservoir) and flow controllers described below), an auxillary container (i.e., reservoir) (item 22) operable to contain a supply of solution in fluid communication with the solution in a first container (i.e., reservoir) such that the solution in the auxiliary container (i.e., reservoir) has a solution level indicative of the solution level in the first container (i.e., reservoir), flow controller elements (items 42, 46, 48, 52, 50a, 54, and 50b as well as items 32, 38, 36, 40, 33, 33a, 33b, 37, 37a, and 37b) which is positioned

between the main container (i.e., reservoir)s (items 16 and 18) and the local container (i.e., reservoir)s (items 24 and 26) to control the flow of the solution from the main container (i.e., reservoir)s to the local container (i.e., reservoir)s, and wherein the detector is operable to generate a signal to the flow controller (via control console 62) to control the flow of the solution to the first container (i.e., reservoir) (see column 3, line 59 to column 4, line 37), and a detector (items 58 and 60) for monitoring the solution level within the auxiliary container (i.e., reservoir), wherein the detector is operable to generate a signal to the flow controller (via control console 62) in response to the monitored solution level of the auxiliary such that the solution level in the local container (i.e., reservoir) is maintained within a predetermined range of levels (as defined by sensors 58 and 60). Switall discloses (column 1, line 35-39) that the containers (i.e., reservoirs), detectors plus the flow control elements and supply containers (i.e., reservoirs) as a whole improve control over the quantity of, the components of, and the application of the solution. Furthermore, one in the art would immediately appreciate that the sensors improve the control over the supply of solution the first container (i.e., reservoir) (item 24/26 of Switall, item 24 of Paul) since the level in the second container (i.e., reservoir) is indicative of the level in the first containers (i.e., reservoir). It is also very apparent that the addition of the detector and second container (i.e., reservoir) (as well as the further improvements disclosed in Switall of the supply means 16 and 18) reduce the downtime of the apparatus by allowing for continual operation while maintaining the solution supply. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the second container

(i.e., reservoir) and detector structures as in Switall in the overall apparatus of Paul in order to improve control over coating apparatus.

As to claims 41 and 42, both Paul (item 14) and Switall (item 12 and 14) discloses a roller as an applicator surface. The roller is partially submerged.

Claim 43 is rejected on similar grounds as claims 1 and 27 above.

Claim 44 is rejected on similar grounds as claim 3 above.

Claim 46 is rejected on similar grounds as claim 5 above.

As to claim 48, Paul and Switall as applied in claim 1 and 27 above discloses separate container (i.e., reservoir)s.

As to claim 49, Paul and Switall as applied in claim 1 and 27 above discloses the second volume is in a second container (i.e., reservoir).

As to claim 50, both Paul and Switall discloses a roller as an applicator surface. The roller is partially submerged.

6. Claims 3, 4, 43 and 44 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Switall as applied to claim 1 or alternatively over Paul and Switall as applied above, and further in view of Akimoto et al (US patent 5,405,443).

Switall as applied to claim 1 above does not disclose using an energy wave detector or a non-surface contacting detector.

Akimoto discloses that it is known to use an optical detector (which is a non-surface contacting detector that identifies energy waves in the visual region) for monitoring the level of a solution in a coating apparatus (see, for example, column 6,

line 55 to column 7, line 9). One in the art would appreciate that an optical detector such as Akimoto would allow for indication of a range of levels, rather than the two level indication that Switall's mechanical sensors provide. Such a range of indication allows for tighter control over the height of the coating supply level, improving the control over amount of coating solution applied, whether by spraying or solid application. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the optical detector of Akimoto for monitoring the supply of coating solution over the detector of Switall in order to provide greater control over the coating solution application.

Furthermore, the selection of an electrical detector, an ultrasonic detector and a magnetic detector is obvious in view of Akimoto's optical detector. All are well known equivalents of an optical detector in that they sense the level without the need for contacting the solution supply. One in the art would be motivated to select whatever detector best suits the solution being used.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paul and Switall as applied to claim 1 and 27 above, and further in view of Reese (US Patent 3,920,431).

Paul discloses that applicator can be an endless belt but is silent as to the structure of the endless belt. One in the art would immediately appreciate that Paul intends for any conventional endless belt for coating fibers with sizing or binding solutions to be used.

Reese discloses such an conventional endless belt (items 6, 7, and 8) known at the time of Paul's invention. Reese discloses that the endless belt comprises a first and second support (items 6 and 7), the first support (item 7) at least partially positionable below the solution level and the second support positionable adjacent to a contact area between the applicator surface and the filament. One in the art would appreciate that Reese discloses a conventional endless belt applicator capable be used with Paul's invention, and would use such a conventional endless belt to provide the applicator surface. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the conventional endless belt of Reese in the invention of Paul as Paul intends for any conventional endless belt system in the field of filament application to be used.

8. Claims 10-13, 15, 17, 28, 30, 31, 32 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul, Switall and Reese as applied to claim 8 or Paul and Switall as applied to claim 27 and 43 above, and further in view of Schweppe (US Paten 3,848,565).

As to claim 10, Paul discloses shielding (item 12, housing container (i.e., reservoir), best viewed in Figure 1) which covers the first container (i.e., reservoir). However, Paul is silent as to how much of the first container (i.e., reservoir) is covered and as to the capabilities of the container (i.e., reservoir).

Schweppe discloses a shield (item 3, called a housing) that covers the first container (i.e., reservoir) and is capable of directing excess liquid on the shielding away from the solution in the first container (i.e., reservoir). Schweppe further discloses an opening from wherein the applicator surface projects such that the filament is contactable with the applicator surface at the opening. One in the art would appreciate that the shielding both prevent excess external liquid from dripping into the container (i.e., reservoir) and excess internal solution from exiting the container (i.e., reservoir) (column 1, lines 58-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize such a shield to prevent solution from escaping and improve maximum size and binder buildup.

As to claim 11, Switall as applied to claims 1, 2, 3, 5, 6, and 7 dislcoses the overflow level, the flow controller and detector operation as claimed (see above).

As to claim 12, Paul discloses the filament can be a glass filament and the solution is a glass fiber sizing composition.

As to claim 13, Paul with the modifications of Schweppe would have side walls and a top wall as claimed (see especially Figure 2 of Schweppe, which shows a front view). The spacing between the upper edge and the lower edge defines the opening.

As to claim 15, Paul with the modifications of Schweppe would have at least one wall extending over the container (i.e., reservoir) as claimed (see especially Figure 2 of Schweppe, which shows a front view). As seen in Figure 2 of Schweppe, one of the edges define at least one edge of the opening.

As to claim 17, the portion of the one wall of Schweppe extends over at least a portion of the applicator surface (best viewed in Figure 1 of Schweppe).

Claims 28, 30, 31 and 32 are rejected as in claim 10 and its parent claims above. Paul (as applied in the rejection of claim 27 above) and Reese as applied above discloses the container (i.e., reservoir) and applicator. Switall as applied in claim 27 above and especially its parent claim 1, discloses using the main container (i.e., reservoir), the auxiliary container (i.e., reservoir), the flow positioner and detector as claimed, and discloses motivation for incorporating these elements. Schweppe as applied in claim 10 above discloses the shielding. As to the positioning the applicator surface exit the solution at a constant angle in claim 32, official notice is taken that doing so is well known and conventional as it would further reduce "throwoff" of the solution from the applicator surface and improve control over the solution. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such a conventional constant angle as it would improve control of the coating operation.

Claim 47 is rejected on similar grounds as claim 10 above.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paul, Switall, Reese and Schweppe as applied to claim 10 above, and further in view of Evans (US Patent 3,401,542).

Paul, Switall, Reese and Schweppe as applied to claim 10 above do disclose at least one wall defining a top wall of the first container (i.e., reservoir), the top wall further

comprising a lower edge defining an upper end of the opening (see especially Schweppe, Figure 2).

Paul, Switall, Reese and Schweppe as applied to claim 10 above do not disclose the gutter along a top wall such that the gutter carries liquid away.

Evans discloses a gutter like structure (item 17, Figure 1) above a filament coating structure and a coating container (i.e., reservoir) (items 12, 11, 11a and 18, 18a and 19). Evans discloses that this gutter prevents external liquid, while still originally from the first container (i.e., reservoir), from falling back into the main chamber. One in the art would appreciate that such a gutter reduces potential contamination of the solution supply. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a gutter as in Evans in order to reduce contamination of the solution supply and improve coating quality.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paul, Switall, Reese and Schweppe as applied to claim 15 above, and further in view of Schmandt (US Patent 4,192,663)

Paul, Switall, Reese and Schweppe as applied to claim 10 above do not disclose a deflector positioned as claimed for directing external liquid away from the opening.

Schmandt discloses a deflector like structure (item 172, 174 and 176, Figure 2) above a filament coating structure and a coating container (i.e., reservoir) (items 102). Schmandt discloses that this deflector helps provide a degree of protection for the applicator assembly (column 4, lines 44-68), and would be capable of directing excess

liquid away from the opening. One in the art would appreciate that such a deflector reduces potential contamination of the solution supply. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a deflector as in Schmandt in order to protect the applicator assembly, as well as reduce contamination of the solution supply and improve coating quality.

11. Claims 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paul, Switall, Reese and Schweppe as applied to claims 28 above, and further in view of Akimoto et al (US patent 5,405,443).

Paul, Switall, Reese and Schweppe as applied to claim 28 above does not disclose a non-surface contacting detector.

Akimoto discloses that it is known to use an optical detector (which is a non-surface contacting detector that identifies energy waves in the visual region) for monitoring the level of a solution in a coating apparatus (see, for example, column 6, line 55 to column 7, line 9). One in the art would appreciate that an optical detector such as Akimoto would allow for indication of a range of levels, rather than the two level indication that Switall's mechanical sensors provide. Such a range of indication allows for tighter control over the height of the coating supply level, improving the control over amount of coating solution applied, whether by spraying or solid application. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the optical detector of Akimoto for monitoring the supply of coating

solution over the detector of Switall in order to provide greater control over the coating solution application.

12. Claims 28, 30, and 31 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Switall as applied to claim 27 above, and further in view of Schweppe.

Switall does not disclose a shield as claimed.

Schweppe discloses a shielding (item 3, called a housing) that covers the first container (i.e., reservoir) and is capable of directing excess liquid on the shielding away from the solution in the first container (i.e., reservoir). Schweppe further discloses an opening from wherein the applicator surface projects such that the filament is contactable with the applicator surface at the opening. One in the art would appreciate that the shielding both prevent excess external liquid from dripping into the container (i.e., reservoir) and excess internal solution from exiting the container (i.e., reservoir) (column 1, lines 58-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize such a shield to prevent solution from escaping and improve maximum size and binder buildup.

As to claim 30, the apparatus is capable of coating a glass filament with a glass fiber sizing composition.

As to claim 31, Switall discloses that the first container (i.e., reservoir) container (i.e., reservoir) contains an overflow level (which can be defined as the top of either container (i.e., reservoir) 24 or 26), and a range of levels below the overflow level

(which can be defined as the top of pipe entrances 56a and 56b, plus the levels of sensors 60 and 58). Alternatively, the top of pipe entrances 56a and 56b can be defined as the overflow levels, and the sensor levels 60 and 58 can be the range of levels below the overflow level (note that pipe entrances 56a and 56b lead to pipe 56, which empties into container (i.e., reservoir) 22 above the sensors 60 and 58).

13. Claims 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Switall and Schweppe as applied to claim 28 above, and further in view of Akimoto et al (US patent 5,405,443).

Switall and Schweppe as applied to claim 28 above does non-surface contacting detector.

Akimoto discloses that it is known to use an optical detector (which is a non-surface contacting detector that identifies energy waves in the visual region) for monitoring the level of a solution in a coating apparatus (see, for example, column 6, line 55 to column 7, line 9). One in the art would appreciate that an optical detector such as Akimoto would allow for indication of a range of levels, rather than the two level indication that Switall's mechanical sensors provide. Such a range of indication allows for tighter control over the height of the coating supply level, improving the control over amount of coating solution applied, whether by spraying or solid application. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the optical detector of Akimoto for monitoring the supply of coating

solution over the detector of Switall in order to provide greater control over the coating solution application.

Response to Arguments

14. Applicant's arguments filed 6-5-2003 have been fully considered but they are not persuasive.

15. Applicant's arguments with respect to the restriction have been noted. At this time, the non-elected claims have been cancelled.

16. In response to applicant's argument that there is no fluid communication, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). With regard to Switall not disclosing fluid communication, it is noted that Switall discloses a number of pipes connecting the container (i.e., reservoir)s, and this provides the capability of fluid communication. Furthermore, the two sensors of Switall are considered determining a variety of levels in the second container (i.e., reservoir) (or reservoir) of Switall. Furthermore, the tops of pipes 56a and 56b are considered overflow levels. Furthermore, Switall discloses adjusting the liquids in the trays 24 and 26.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (703) 305-3435 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

George R. Koch III
August 25, 2003

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700